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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,231	10/19/2001	Jeffrey A. Colborn	04813.0026.NPUS00	2247

7590 10/03/2003

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EXAMINER	
SCALTRITO, DONALD V	

ART UNIT	PAPER NUMBER
1746	

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/058,231	COLBORN ET AL.	
	Examiner	Art Unit	
	Donald V Scaltrito	1746	

-- The MAILING DATE of this communication app ars on the cover sheet with th correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 October 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-43* is/are rejected.

7)☒ Claim(s) *15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on ____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6, 7* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because it contains more than 150 words. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

Claim 15 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The Examiner would like to suggest that Claim 15 read as follows "The system of any *one* of claims 13 or 14....."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 6-9, 11-14, 31 & 33-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Faris et al. (U.S. Patent No. 6,558,829).

Faris et al. disclose a system having an integrated refuelable and rechargable metal-air fuel cell battery based power supply unit for generating and providing electrical power to at least one electrical-energy-consuming load device. A control subsystem automatically transitions between discharging mode and a recharging mode wherein the external power source is electrically coupled to at least one metal-air FCB subsystem to thereby recharge the metal-air fuel cell battery subsystem (note abstract).

With respect to Claim 1, Faris et al. disclose a plurality of metal-air fuel cell battery subsystems that are connected to a power source and a controller that senses a power output to one or more loads wherein when it is sensed that a load is low and/or out of power, the fuel cell battery system is engaged to recharge (see Figure 1 of this reference, see also column 9, lines 15-67). The Examiner would like to point out that the process of recharging is being interpreted as providing backup power to the system. The Examiner would also like to point out that the fuel cell batteries are refueled via manual loading of metal fuel, which is being interpreted as an

inherent storage capability (see abstract). With respect to Claims 6-8, Faris et al. teach that the system is equipped to convert DC power into AC power (column 9, lines 55-60) and that DC power can be converted into another form of DC power (column 10, lines 5-10). With respect to Claim 9, Faris et al. teach that the power may be stopped being supplied to the loads after it is detected that the metal fuel cell batteries have been recharged (column 10, line 60 – column 11, line 20). The Examiner interprets this as disengaging the system from providing power to the loads. With respect to Claims 11 & 12, Faris et al. teach that the fuel cells can be zinc fuel cells (column 8, lines 39-45). With respect to Claims 13 & 14, Faris et al. teach that their disclosure can be used in portable electronic devices (column 2, lines 44-53). The Examiner would like to point out that this implies that these embodiments would inherently possess physical support means for the fuel cell and load. With respect to Claim 31, Faris et al. teach the use of metal fuel cards that can be manually loaded and unloaded from the system. The Examiner interprets this as the system not being configured to expel products outside the system.

With respect to Claims 33 & 34, Faris et al. teach a plurality of metal-air fuel cell battery subsystems that are connected to a power source and a controller that senses a power output to one or more loads wherein when it is sensed that a load is low and/or out of power, the fuel cell battery system is engaged to recharge (see Figure 1 of this reference, see also column 9, lines 15-67). The Examiner would like to point out that the process of recharging is being interpreted as providing backup power to the system. With respect to Claims 35 & 36, Faris et al. teach that the system is equipped to convert DC power into AC power (column 9, lines 55-60). With respect to Claims 37 & 38, Faris et al. teach that the power may be stopped being supplied to the loads after it is detected that the metal fuel cell batteries have been recharged (column 10, line 60 – column

11, line 20). The Examiner interprets this as disengaging the system from providing power to the loads. With respect to Claim 39, Faris et al. teach that the fuel cells can be zinc fuel cells (column 8, lines 39-45).

Claim 40 is rejected under 35 U.S.C. 102(e) as being anticipated by Hockaday (U.S. Patent No. 6,326,097).

Hockaday teaches liquid fuel cell powered portable electronic devices wherein liquid fuel can be refilled as necessary through the use of ampoules or refillable fuel tanks (note abstract). With respect to Claim 40, Hockaday discloses placing and storing a fuel cartridge (i.e., ampoule or refillable tank) into a cavity of a portable electronic device for use by a miniature fuel cell stack (see Figure 6 of this reference). The Examiner would like to point out that the preamble is a future intended use statement and is being given little patentable weight. The Examiner would also like to point out that the fuel cell stack is interpreted as a power source for a fuel cell system.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faris et al. as applied to Claim 1 above, in view of Linden (Handbook of Batteries, 2nd Edition).

Faris et al. disclose all of the limitations as discussed above under the 35 U.S.C. 102(e) rejections. Faris et al. fail to teach or fairly suggest, however, specific time and energy density limitations that the fuel cell system is configured to achieve.

Linden teaches factors affecting electrochemical system performance and specifically teaches that energy densities can be adjusted to a desired output range by manipulating such factors as cell volume and cell shape (see pages 3.17-3.18 of this reference). The concept of adjusting cell volume and cell shape to achieve a desired energy output range is well known to one of ordinary skill in the art and therefore, it would have been obvious to manipulate these parameters to achieve a desired energy output.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faris et al. (U.S. Patent No. 6,558,829) in view of Hockaday (U.S. Patent No. 6,326,097).

Faris et al. disclose all of the limitations as discussed above under the 35 U.S.C. 102(e) rejections. Faris et al. fail to teach or fairly suggest, however, storing fuel in cavities of a power source of a fuel cell system.

Hockaday discloses placing and storing a fuel cartridge (i.e., ampoule or refillable tank) into a cavity of a portable electronic device for use by a miniature fuel cell stack (see Figure 6). The Examiner would also like to point out that the fuel cell stack is interpreted as a power source for a fuel cell system. Hockaday teaches that it is beneficial to place and store fuel in a cavity of

a power source because it is much easier to assess the remaining amount of fuel and it allows for instantaneous recovery of system operation when the fuel is depleted (see column 2, lines 16-29).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention as a whole was made to incorporate storing fuel in a cavity of the power source, as taught by Hockaday, into the fuel cell system of Faris et al. because Hockaday teaches that it is beneficial to place and store fuel in a cavity of a power source because it is much easier to assess the remaining amount of fuel and it allows for instantaneous recovery of system operation when the fuel is depleted.

Claims 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hockaday as applied to Claim 40 above, in view of Linden (Handbook of Batteries, 2nd Edition).

Hockaday discloses all of the limitations as discussed above under the 35 U.S.C. 102(e) rejections. Hockaday fails to teach or fairly suggest, however, specific time and energy density limitations that the fuel cell system is configured to achieve.

Linden teaches factors affecting electrochemical system performance and specifically teaches that energy densities can be adjusted to a desired output range by manipulating such factors as cell volume and cell shape (see pages 3.17-3.18 of this reference). The concept of adjusting cell volume and cell shape to achieve a desired energy output range is well known to one of ordinary skill in the art and therefore, it would have been obvious to manipulate these parameters to achieve a desired energy output.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-43 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-43 of copending Application No. 09/930,394. Although the conflicting claims are not identical, they are not patentably distinct from each other because Application No. 09/930,394 is drawn to a *metal* fuel cell system comprising a power source, a fuel storage unit and a controller for sensing an outage of primary power to a load and Application No. 10/058,231 is drawn to a fuel cell system comprising a power source, a fuel storage unit and a controller for sensing an outage of primary power to a load.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

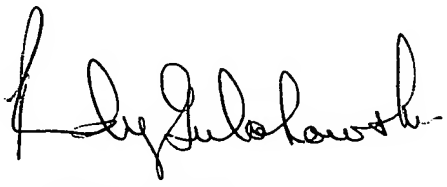
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Scaltrito, whose telephone number is 703.305.4926. The examiner can be reached in his office on Monday-Friday between the hours of 9am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, may be reached at 703.308.4333. The official fax number for the organization where this application or proceeding is assigned is 703.305.3599.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0661

Donald Scaltrito
Patent Examiner
Art Unit 1746
June 19, 2003



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